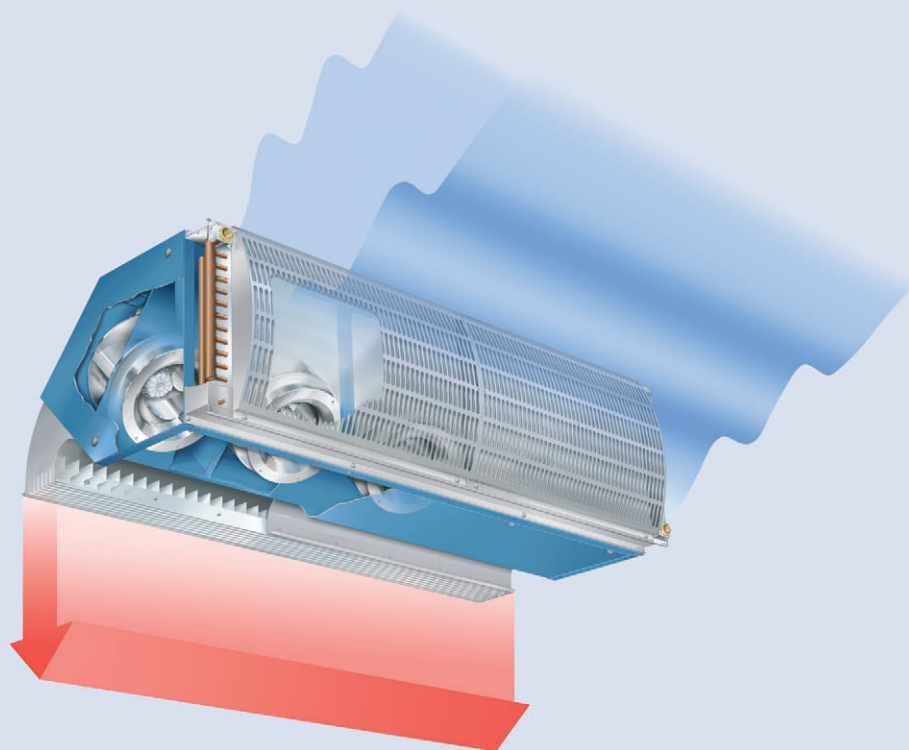




Industrial air curtains
Model IndAC



During loading and unloading the door remains open, without the indoor climate being disturbed.

Industrial air curtain, model IndAC

Free Industrial ACces

Industrial building doors are often open for long periods of time to facilitate transport in and out of the building. However, open doors result in a loss of heat to the outside and the ingress of cold air. This disturbs the climate within the building, which leads to uncomfortable working conditions for staff. Internal transport does not want to be hindered by closed doors either, so internal doors between production halls and storage spaces for instance, are open all day long. If there is a difference in temperatures between these rooms, air will exchange, leading to draughts.

The new Biddle industrial air curtain, model IndAC, is highly suitable to handle these kinds of situations. Many years of experience in combination with scientific research, forms the basis for the IndAC, which has a distinct robust appearance. The IndAC makes the entrance accessible for transport and prevents cold air entering the building, which results in free access, comfortable working conditions and less absence due to illness.

Benefits of IndAC

- Free access
- No draughts (on workplace)
- Low energy consumption
- Less absence due to illness
- No air leakages
- Combines well with overhead door systems
- Various options
- Flexible suspension system
- Easy to control
- Easy to maintain (no filter)

Energy saving solution

Doorways of industrial buildings are usually faced with direct wind attack, or suffer from under-pressure, resulting in large air volumes being introduced into the working area. In order to provide optimum screening, a unit with large air volumes is required in most situations.

Therefore, Biddle has optimised the discharge pattern for industrial applications. The air passes through the curved discharge section with minimal resistance. The patented Double Rectifier ensures that turbulent air from the fans is bundled into a laminar air stream, discharging in a straight vertical line to the floor. Additionally, the homogeneous discharge pattern across the door provides optimum heating of cold outside air, eliminating draughts in the building and preventing expensive energy being lost to the outside.

The curved design of the discharge section also means that it is easily installed close to the door, preventing air leakages. The result is a well screened doorway with a minimum loss of heat.



Combines well with overhead door systems.



Model IndAC can be installed both horizontally and vertically.

Both above and next to the door

IndAC air curtains can be installed directly above or next to the door. Different installation positions are possible depending on the room layout around the door (see page 7).

Modular design

The modular design of the IndAC facilitates the installation of multiple devices next to or above each other, in order to cover any door height or width.

Very easy to mount and clean

The design of the IndAC is such that the various parts are very easy to access, making it easy to mount, install, maintain and clean. The unit contains a minimum of 'internal obstacles', resulting in a smooth air flow through the unit in which dust has little chance of collecting.

Pronounced industrial style

The IndAC is a truly industrial product with a robust and modern design. The colours are matched to the latest developments within the industry. Thus the casing is supplied in Blue (RAL 5023), with the external components finished in a 'metallic' colour. Other colours are available upon request.



IndAC with electric heating.



Patented Double Rectifier

Technology

When a door is open, the difference between the outside and inside temperature leads to an exchange of air, resulting in cold air entering and warm heated air flowing out. An air curtain above or next to the open door provides separation of the two climates. Whilst developing the IndAC, Biddle has researched the outlet discharge pattern. The result is the Double Rectifier.

Fan offering air-engineering benefits

The IndAC is equipped with radial backward curved fans which homogeneously distribute the air across the whole discharge opening, producing high efficiency and comfort levels. Another advantage is the low sound level of the fan.

Patented Double Rectifier

If a conventional industrial air curtain without a rectifier discharges air at the same rate as a unit with a Double Rectifier, the downward penetration is tangibly less (see Figure 1). The air stream does not reach the floor, and the open door is not screened off properly (see Figure 3). Consequences include draught and loss of heat.

Side view

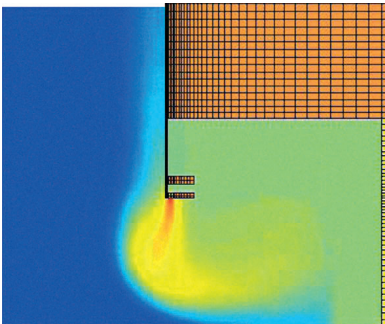


Fig. 3
Industrial air curtain without rectifier

Front view

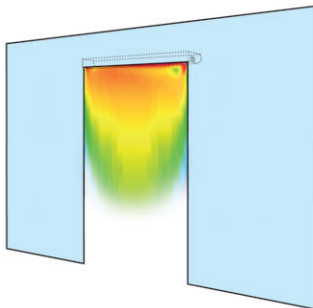


Fig. 1
Industrial air curtain without rectifier

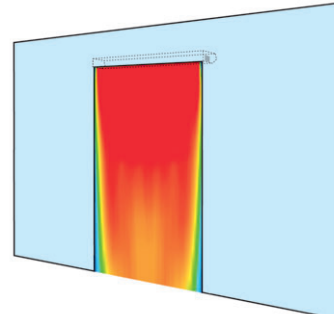


Fig. 2
IndAC with Double Rectifier

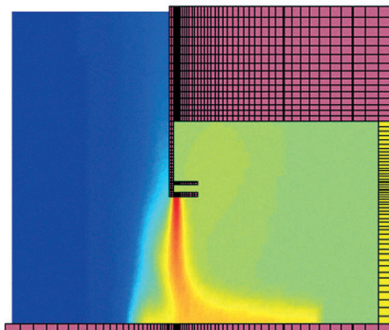


Fig. 4
IndAC with Double Rectifier

Due to the discharge pattern of an industrial air curtain with a Double Rectifier the incoming cold air is heated so that it is no longer experienced as draught. The Double Rectifier has vertical fins mounted on top of the horizontal fins to streamline the air flow in a better way, resulting in an excellent downward penetration (see Figure 2). The Double Rectifier, which minimises turbulence in the discharge air stream and surrounding air, ensures that the air movement generated by the fans, is directed downward in a deeply penetrating laminar air stream (see Figure 4). As a consequence the energy consumption is reduced and comfort levels are increased all year round.

Selection



An air curtain should be selected so that it has sufficient capacity to heat up the cold entering air to a comfortable temperature. Additionally, the unit should be able to screen off the entire doorway. The selection of an appropriate air curtain depends on:

1. Door height or width
2. Situation (building)

1. Door height or width

The door height or width is measured from the bottom or side of the unit. These are known data, so based on the table at the bottom of this page it is easy to select your air curtain. It is important for the air curtain to be positioned close to the door with a minimal gap. In addition, the air curtain should be at least as wide or high as the door opening, as a too short air curtain will lead to air leakages on the sides or at the top.

2. Situation (building)

The conditions at a doorway vary continuously, leading to difficulty in determining the volume and temperature of outside air entering the building. Other aspects such as multiple open doors in a single room, or the orientation of the building may also have a large influence on the capacity need. To make selection easier for you, please use the following guidelines.

- **Favourable conditions:** no direct wind attack, a sheltered location, internal (inside) doors.
- **Normal conditions:** little direct wind attack, no open doors opposite one another.
- **Normal conditions:** direct wind attack on open door, multiple open doors, large mechanical extraction rates, location in open country.

Door height/ width¹	Conditions		
	Favourable	Normal	Unfavourable
3 - 4 m	IndAC S	IndAC S	IndAC M
4 - 5 m	IndAC S	IndAC M	IndAC L ²
5 - 6 m	IndAC M	IndAC L	IndAC L-W3
6 - 8 m	IndAC L	-	-

¹ Mounting height, measured from the bottom or side of the unit.

² The L-type will be available by mid-2007.

The above selection table is for indicative purposes only. If in doubt, please contact Biddle for advice.

Various options

Variants

The industrial air curtain is available in two capacities: S(mall) and M(edium). There are two lengths to choose from; 1.5 and 2.0 metres, and by combining these two types, any desired discharge width or height, from 3.0m, can be achieved in 0.5m increments. Both types are supplied with a water heating coil, an electric heating coil, or without any heating coil (ambient). The IndAC can be positioned horizontally and vertically (see page 7). Further, the device is available with a Basic, Plus or Automatic control unit (see page 8).

Type	Unit length ¹	Coil type	Installation positions
IndAC S	150	W (water)	Horizontal
IndAC M	200	E (electric)	Vertical
		A (ambient)	- right or left - square or parallel to wall

¹ From 3.0m, any combination of the two unit lengths is possible.

Standard delivery and accessories

Model IndAC is delivered with:

- two suspension brackets - for horizontal installation
- two coupling plates - for vertical installation
- wall bracket - for vertical installation
- connection cable to interlink adjoining units

These components are also needed:

- Basic, Plus or Automatic controller
- base plate / plinth - for vertical installation

Options:

- door contact switch
- room thermostat

Flexible suspension system

With horizontal installation, the unit is suspended above the door by using four threaded rods (M12) and the suspension brackets supplied (see picture alongside).

As a flat surface is essential with vertical installation, it is recommended to place the IndAC on a base plate. By using the supplied coupling plates and wall bracket it is easy to fix and secure the unit.

Typecode

IndAC S-150-W1-2R

Capacity

S = S(mall)

M = M(edium)

L = L(arge)*

Unit length

150 = 150 cm

200 = 200 cm

Coil type

W1 = Water heating -
high water temperatures

W2 = Water heating -
medium water temperatures

W3 = Water heating -
low water temperatures

E = Electrical heating

A = Ambient, no heating coil

Installation position

0 = Horizontal, above door

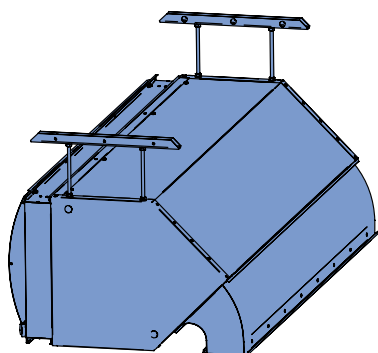
1R = Vertical, right side, square to wall

1L = Vertical, left side, square to wall

2R = Vertical, right side, parallel to wall

2L = Vertical, left side, parallel to wall

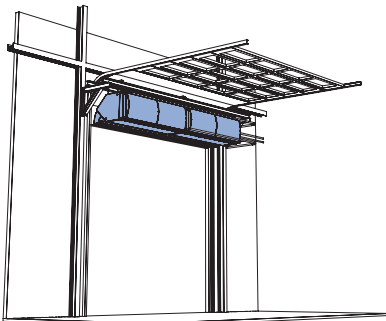
* The L-type will be available by mid-2007.



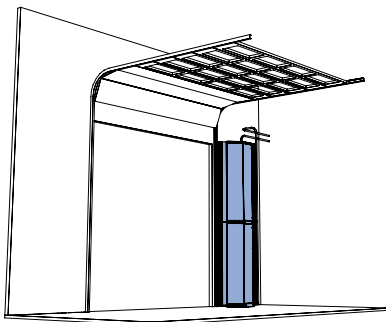
Diversity in installation positions

The room layout around a door determines where and how an air curtain can be best installed. Thanks to a diverse range of installation positions, the IndAC air curtain can be matched to the possibilities offered by the local situation.

The units should be positioned above or next to the door, covering the full length or width of the doorway. Depending on the situation, the air curtain is either installed horizontally above or vertically next to the door (to the left or right or on both sides). There are a total of five installation positions, which are shown below.



Horizontal installation (position 0): excellent to combine with overhead door systems.



Example of vertical installation (position 2R): to the right and parallel to wall.

Installation position	Situation	Explanation
0		Horizontal - above door opening
1R		Vertical - right side of door opening - square to wall
1L		Vertical - left side of door opening - square to wall
2R		Vertical - right side of door opening - parallel to wall
2L		Vertical - left side of door opening - parallel to wall

← Air direction ▲ Inspection side ▨ Wall □ Door ■ Ceiling

Control options

Three types of controller are available: Basic, Plus or Automatic. The control panel allows you to control the climate separation between inside and outside in a simple and comfortable way.

1. Basic controller (RTRD)

The five-speed controller allows you to match the volume of air to different conditions. The RTRD-controller has a rotary control switch for five speeds, a neon indicator and an input for a door contact switch or room thermostat.



Basic controller (RTRD) with neon indicator and connections for room thermostat and thermal contacts.

2. Plus controller (RDP)

The Plus controller has two switches with five speeds:

- 1 = with open door
- 2 = heat demand when door closed

This controller is supplied with two rotary control switches. To switch from button 1 to 2, a door contact switch should be connected to the first input. To the second input, a room thermostat should be connected. The air curtain will not switch off until the room has reached the desired indoor temperature. On request, this controller can be delivered with more control options.



The control panel has the following dimensions: 600 x 330 x 205 mm (l x w x d)

3. Automatic controller

In situations where doors must be open frequently and for longer periods of time, it is difficult to ensure a constant indoor temperature as external conditions can change continuously throughout the day. This often leads to complaints about draughts or to high energy consumption needed to keep the temperature comfortable inside.

The automatic controller is developed to economically create a comfortable indoor climate in these changing conditions. By means of the air and water controls the air volume and discharge air temperature are geared automatically to each other. This controller adjusts the heat demand to different conditions.

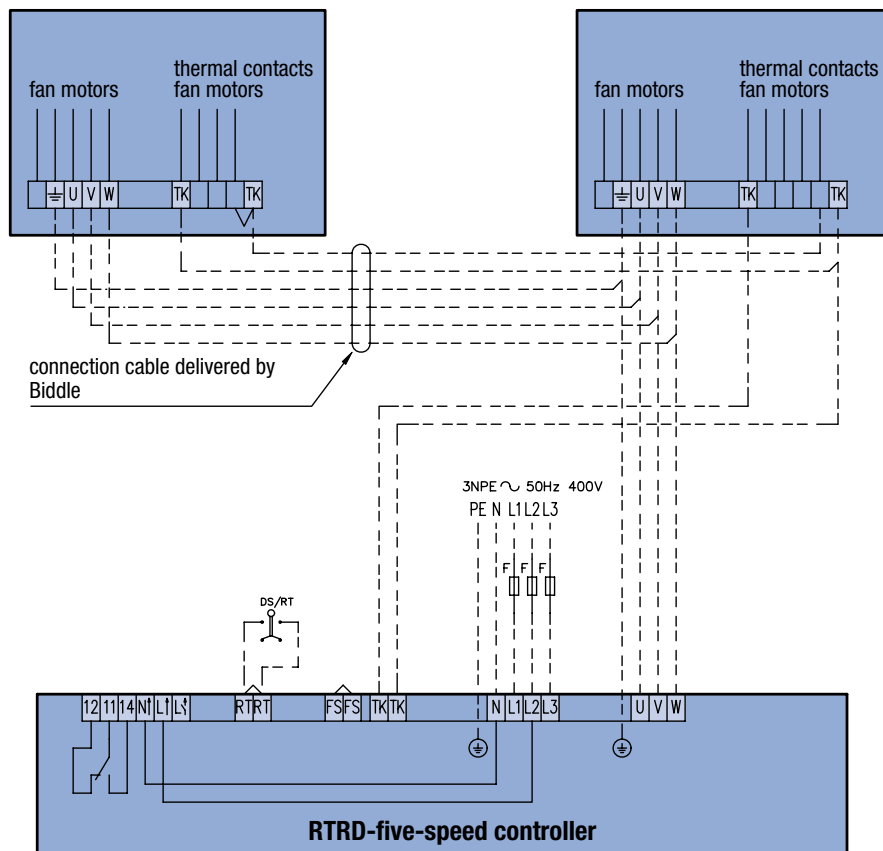
The basis of this unit is a five-speed controller, which is coupled to a pre-programmed control (PLC). This fully automatic controller has connections for input signals, to which various sensors, such as integrated floor or air temperature sensors, can be connected. The controller also features output signal connections, so that the desired discharge temperature of the air stream can be regulated.

Electrical connections

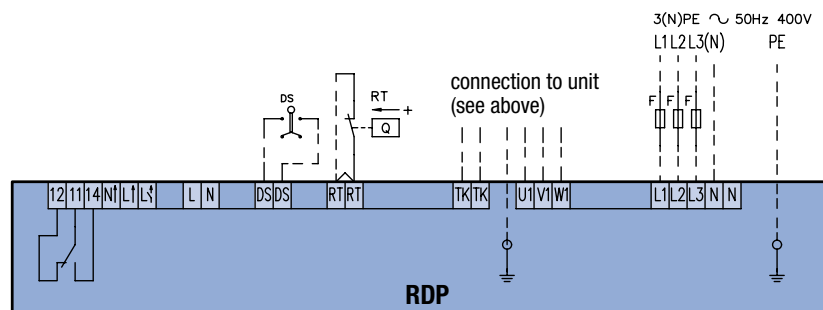
Interlinking units and connecting Basic controller

IndAC 150

IndAC 200



Connecting Plus controller



- wired by Biddle
- restriction of unit
- - - not wired by Biddle
- DS/RT on / off door contact switch or room thermostat

Technical data

Water Heating

General data		S-150	S-200	M-150	M-200	
unit lenght	m	1.5	2.0	1.5	2.0	
door width / -height¹	m	3.0 - 4.0		4.0 - 5.0		
air inlet temperature	°C	15				
electrical supply	V/ph/Hz	400 / 3 / 50				
max. current motors	A	0.96	1.28	1.56	2.08	
max. power motors	kW	0.33	0.44	0.81	1.08	
	Speed	1	2	3	4	5
tapping voltage	V	95	145	190	240	400

IndAC S-150		W1 LPHW 90/70°C					W2 LPHW 80/60°C					W3 LPHW 60/40°C				
	Speed	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
air displacement	m³/h	1830	2840	3640	4320	5150	1830	2840	3640	4320	5150	1830	2840	3640	4320	5150
air outlet temperature	°C	46	41	39	37	35	50	45	42	40	38	41	37	35	33	32
heating capacity	kW	19.5	25.5	29.4	32.3	35.2	22.2	29.3	33.9	37.4	41.2	16	21.3	24.7	27.3	30.1
water flow rate	l/h	862	1124	1295	1424	1565	971	1282	1485	1639	1807	695	923	1071	1183	1304
water pressure loss	kPa	1.7	2.7	3.6	4.2	5	1	1.7	2.2	2.7	3.2	0.6	1	1.3	1.5	1.8
sound pressure level at 5m	dB(A)	34	44	50	54	59	34	44	50	54	59	34	44	50	54	59
weight	kg	92					95					97				

IndAC S-200		W1 LPHW 90/70°C					W2 LPHW 80/60°C					W3 LPHW 60/40°C				
	Speed	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
air displacement	m³/h	2440	3790	4850	5760	6870	2440	3790	4850	5760	6870	2440	3790	4850	5760	6870
air outlet temperature	°C	48	43	40	38	36	52	47	44	42	40	43	39	37	35	34
heating capacity	kW	27.2	35.7	41.2	45.3	49.9	30.9	41.1	47.7	52.7	58.2	23	30.8	35.9	39.8	44
water flow rate	l/h	1200	1572	1815	1998	2199	1356	1799	2090	2309	2551	998	1337	1558	1725	1908
water pressure loss	kPa	3.8	6.3	8.2	9.8	11.7	2.1	3.6	4.8	5.8	7	1.3	2.2	2.9	3.5	4.3
sound pressure level at 5m	dB(A)	35	45	52	56	61	35	45	52	56	61	35	45	52	56	61
weight	kg	119					124					126				

IndAC M-150		W1 LPHW 90/70°C					W2 LPHW 80/60°C					W3 LPHW 60/40°C				
	Speed	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
air displacement	m³/h	2750	4160	5230	5790	7410	2750	4160	5230	5790	7410	2750	4160	5230	5790	7410
air outlet temperature	°C	42	37	35	34	32	46	41	38	37	35	37	34	32	31	29
heating capacity	kW	25	31.7	35.8	37.7	42.6	28.7	36.6	41.6	43.9	49.9	20.9	26.7	30.3	32	36.3
water flow rate	l/h	1104	1395	1577	1662	1879	1258	1605	1822	1924	2186	906	1158	1314	1388	1576
water pressure loss	kPa	2.6	4.1	5.1	5.6	7.1	1.6	2.6	3.2	3.6	4.6	0.9	1.5	1.8	2	2.6
sound pressure level at 5m	dB(A)	40	48	53	57	62	40	48	53	57	62	40	48	53	57	62
weight	kg	99					102					104				

IndAC M-200		W1 LPHW 90/70°C					W2 LPHW 80/60°C					W3 LPHW 60/40°C				
	Speed	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
air displacement	m³/h	3670	5550	6970	7720	9870	3670	5550	6970	7720	9870	3670	5550	6970	7720	9870
air outlet temperature	°C	43	38	36	35	33	47	42	40	39	36	39	36	34	33	31
heating capacity	kW	35	44.4	50.3	53	60.1	40.3	51.6	58.7	62	70.7	30.2	38.9	44.3	46.9	53.5
water flow rate	l/h	1543	1957	2216	2338	2648	1765	2261	2572	2719	3097	1311	1689	1924	2035	2319
water pressure loss	kPa	6.1	9.5	11.9	13.1	16.5	3.5	5.6	7.1	7.9	10	2.1	3.4	4.3	4.8	6.1
sound pressure level at 5m	dB(A)	41	49	55	58	63	41	49	55	58	63	41	49	55	58	63
weight	kg	128					133					136				

¹ Based on normal circumstances. For selection see page 5.

Technical data

Ambient units

General data		S-150	S-200	M-150	M-200	
unit length	m	1.5	2.0	1.5	2.0	
door width / -height	m	3.0 - 4.0		4.0 - 5.0		
electrical supply	V/ph/Hz	400 / 3 / 50				
max. current motors	A	0.96	1.28	1.56	2.08	
max. power motors	kW	0.33	0.44	0.81	1.08	
	Speed	1	2	3	4	5
tapping voltage	V	95	145	190	240	400

IndAC S		150					200				
	Speed	1	2	3	4	5	1	2	3	4	5
air displacement	m³/h	1830	2840	3640	4320	5150	2440	3790	4850	5760	6870
sound pressure level at 5m	dB(A)	34	44	50	54	59	35	45	52	56	61
weight	kg	78					101				

IndAC M		150					200				
	Speed	1	2	3	4	5	1	2	3	4	5
air displacement	m³/h	2750	4160	5230	5790	7410	3670	5550	6970	7720	9870
sound pressure level at 5m	dB(A)	40	48	53	57	62	41	49	55	58	63
weight	kg	85					111				

Electric Heating

General Data		S-150	S-200	M-150	M-200	
unit lenght	m	1.5	2.0	1.5	2.0	
door width / -height¹	m	3.0 - 4.0		4.0 - 5.0		
air inlet temperature	°C	15				
electrical supply	V/ph/Hz	400 / 3 / 50				
max. current motors	A	0.96	1.28	1.56	2.08	
max. cur. cons. (per phase)	A	45.2	60.9	67.8	91.3	
max. power motors	kW	0.33	0.44	0.81	1.08	
max. power consumption	kW	31.2	42	46.8	63	
	Speed	1	2	3	4	5
tapping voltage	V	95	145	190	240	400

IndAC S		150					200				
	Speed	1	2	3	4	5	1	2	3	4	5
air displacement	m³/h	1830	2840	3640	4320	5150	2440	3790	4850	5760	6870
air outlet temperature	°C	27	28	29	30	32	27	28	29	30	32
heating capacity	kW	7.4	12.4	17.3	22.2	29.6	10	16.6	23.3	29.9	39.9
sound pressure level at 5m	dB(A)	34	44	50	54	59	35	45	52	56	61
weight	kg	119					155				

IndAC M		150					200				
	Speed	1	2	3	4	5	1	2	3	4	5
air displacement	m³/h	2750	4160	5230	5790	7410	3670	5550	6970	7720	9870
air outlet temperature	°C	31	31	32	34	33	31	31	32	34	33
heating capacity	kW	14.8	22.2	29.6	37.1	44.5	20	29.9	39.9	49.9	59.9
sound pressure level at 5m	dB(A)	40	48	53	57	62	41	49	55	58	63
weight	kg	126					165				

¹ Based on normal circumstances. For selection see page 5.

Explanation of technical data

Heating capacity correction coefficients

The heating capacity of the battery type W1 represented in the tables on page 10 and 11 is based on a water range of 90/70°C. The heating capacity of battery type W2 is based on a water range of 80/60°C and of W3 on 60/40°C. An air inlet temperature of + 15°C has been assumed. When other water temperatures and/or air inlet temperatures are used, the heating capacity is to be multiplied by the appropriate correction factor given below.

Heating capacity correction factors for battery types W1, W2 and W3

Water- temperature	Air inlet temperature														
	+ 5°C			+ 10°C			+ 15°C			+ 18°C			+ 20°C		
	W1	W2	W3	W1	W2	W3	W1	W2	W3	W1	W2	W3	W1	W2	W3
120/100°C	1.74	2.10	3.72	1.64	1.98	3.51	1.54	1.85	3.30	1.48	1.78	3.17	1.44	1.74	3.08
110/90°C	1.56	1.88	3.35	1.46	1.76	3.12	1.37	1.65	2.93	1.31	1.58	2.80	1.27	1.53	2.72
100/80°C	1.38	1.67	2.97	1.28	1.55	2.76	1.19	1.44	2.55	1.13	1.37	2.43	1.09	1.32	2.35
90/70°C	1.19	1.45	2.58	1.10	1.33	2.38	1	1.22	2.17	0.95	1.15	2.05	0.91	1.11	1.97
80/60°C	1.00	1.22	2.18	0.91	1.11	1.98	0.81	1	1.78	0.76	0.93	1.66	0.72	0.93	1.68
70/50°C	0.81	1.00	1.78	0.72	0.89	1.59	0.63	0.78	1.39	0.57	0.71	1.28	0.54	0.71	1.20
60/40°C	0.62	0.78	1.39	0.53	0.67	1.19	0.53	0.56	1	0.39	0.50	0.89	0.36	0.50	0.81

To increase the service life of the fans as well as for safety reasons, the maximum discharge air temperature allowed is 65°C.

Water flow rate

m_W = water flow rate [l/h]
 Q = capacity [kW]
 ρ_W = density of water (=1) [kg/l]
 C_{pW} = specific heat of water
 (=4.18) [kJ/kg°C]
 ΔT_W = temperature difference,
 water [°C]

When water and room temperatures other than the values represented in the tables are used, the water flow rate can be roughly calculated using the formula below. Before doing so, the heating capacity must first be recalculated based on the table above.

$$m_W = \frac{Q}{\rho_W C_{pW} \Delta T_W} \cdot 3600 \text{ [l/h]}$$

Waterside pressure loss

Δp_{W_2} = waterside pressure loss [kPa]
 Δp_{W_1} = waterside pressure loss
 according to table values [kPa]
 m_{W_1} = water flow rate
 table values [l/h]
 m_{W_2} = water flow rate calculated
 using formula [l/h]

When water temperatures other than the values represented in the tables are used, the waterside pressure loss can be calculated using the formula below. To do so, the water volume must first be calculated.

$$\Delta p_{W_2} = \Delta p_{W_1} \left(\frac{m_{W_2}}{m_{W_1}} \right)^2 \text{ [kPa]}$$

Sound

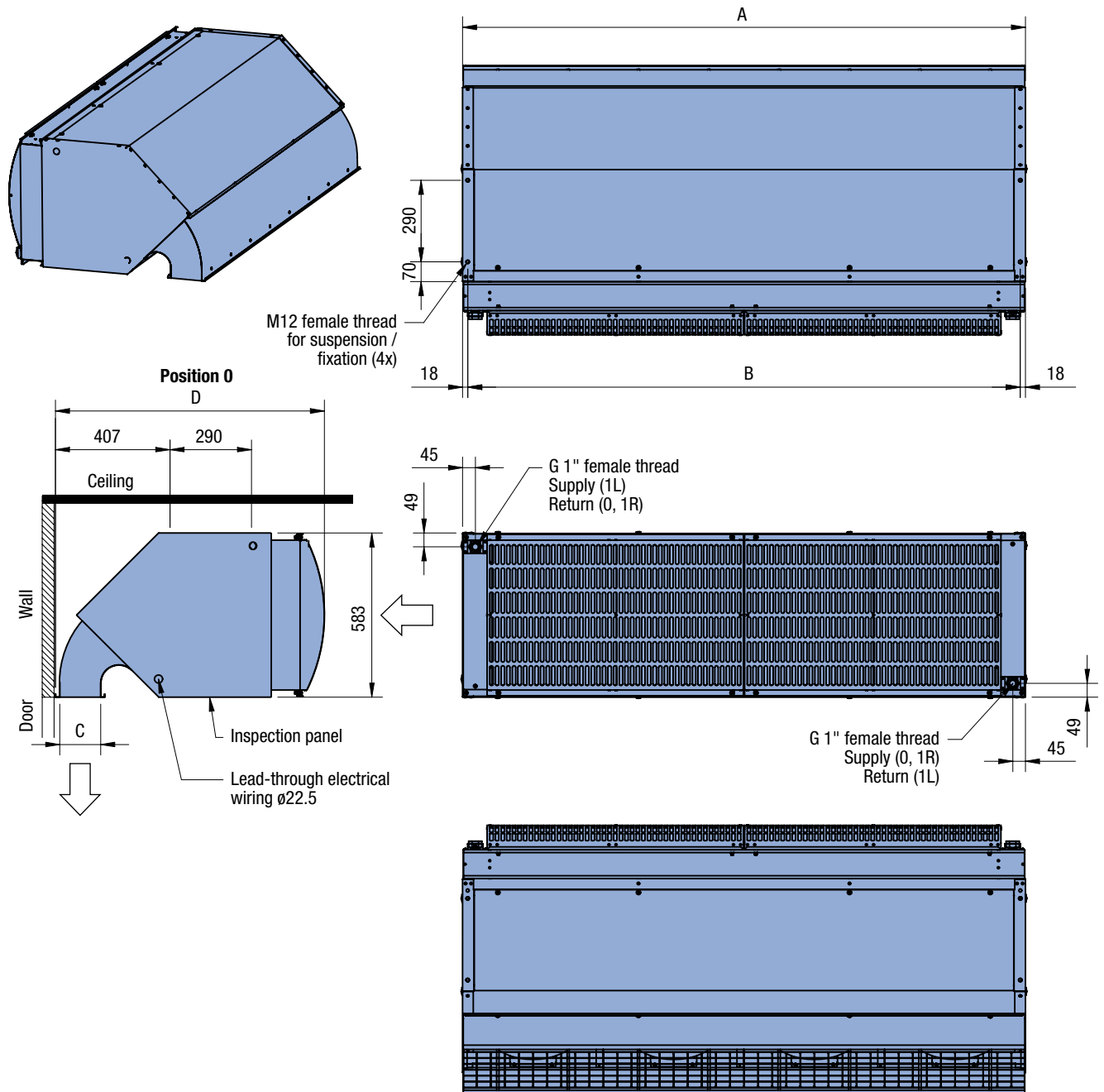
T = reverberation value,
 deviating room [s]
 T_0 = reverberation value ref. room [s]
 (see table)
 V = volume, deviating room [m³]
 V_0 = volume, reference room [m³]
 (see table)
 n = number of units

The sound data represented on pages 10 and 11 were measured at a distance of 5m from the device, in a room with a reverberation time of 0.8 seconds and with a volume of 2500m³. If a unit is used in a deviating room, or if multiple devices are used in a single room, the sound pressure level must be recalculated. This can be done using the below formula below. The relevant table value can be found in the tables on pages 10 and 11.

$$\text{table value} + \left(10 \cdot \log \left(\frac{T}{T_0} \right) - 10 \cdot \log \left(\frac{V}{V_0} \right) + 10 \cdot \log (n) \right) \text{ [dB(A)]}$$

Dimensional sketches

Installations position¹ horizontal (0) and vertical, square to wall (1R and 1L)



Type	A	B	C
IndAC S-150	1500	1464	104
IndAC S-200	2000	1964	104
IndAC M-150	1500	1464	146
IndAC M-200	2000	1964	146

Coil type	D
Water	956
Ambient	853
Electric	976

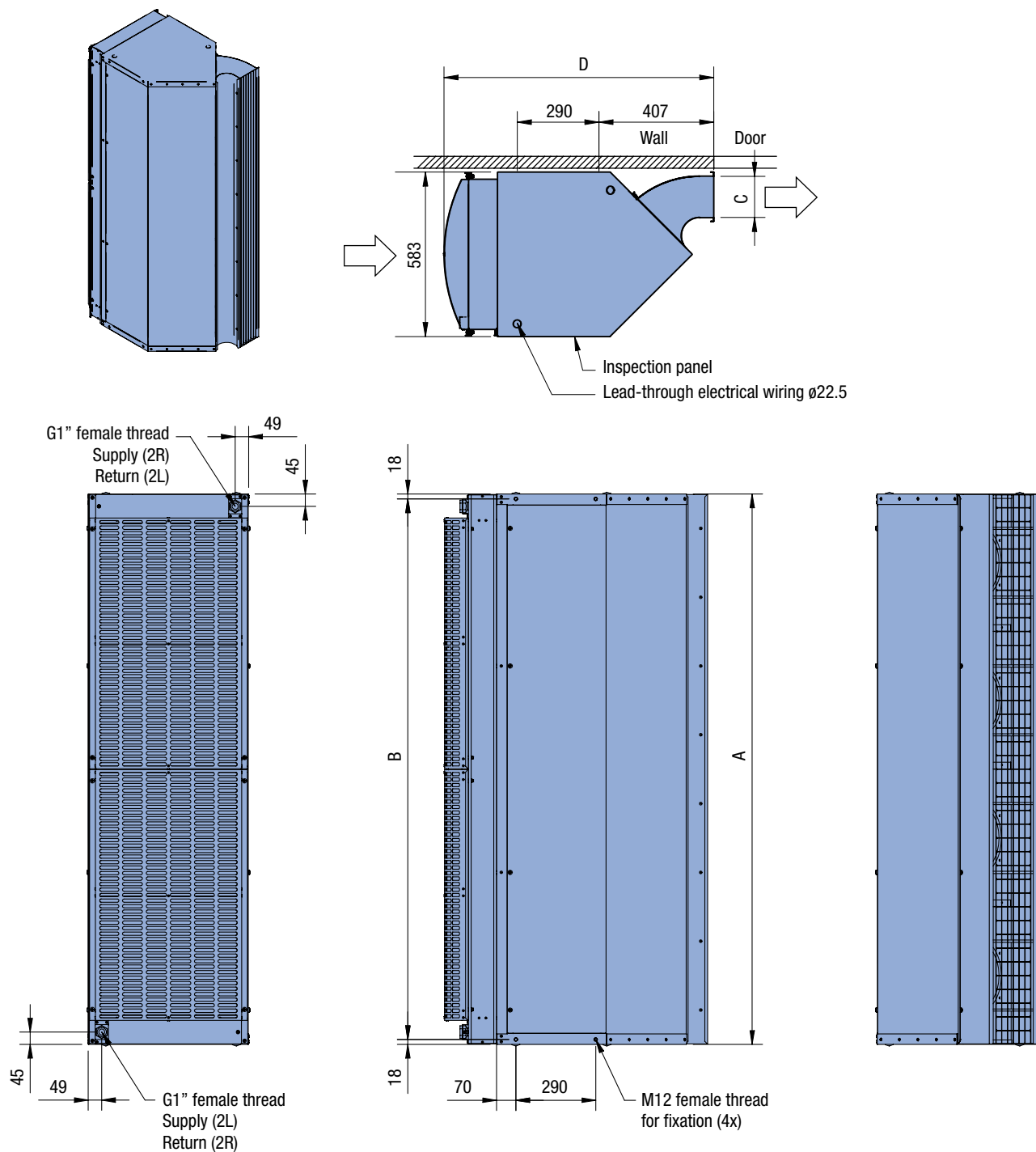
Notes:

• The type without heating element (= ambient) does not have water connections.

¹ For explanation of installation positions see page 7.

Dimensional sketches

Installatiepositie¹ vertical, parallel to wall (2R and 2L)



Type	A	B	C
IndAC S-150	1500	1464	104
IndAC S-200	2000	1964	104
IndAC M-150	1500	1464	146
IndAC M-200	2000	1964	146

Coil type	D
Water	956
Ambient	853
Electric	976

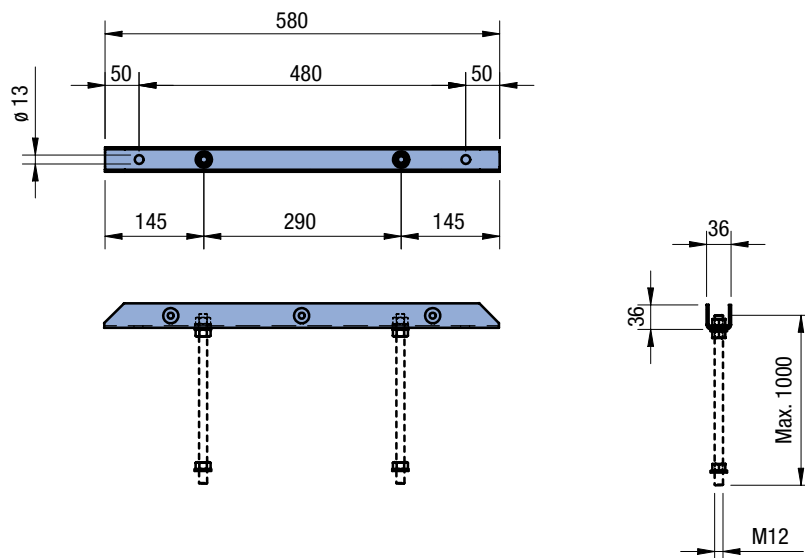
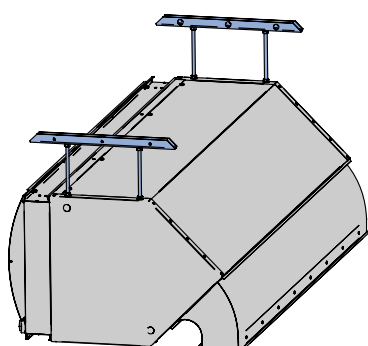
Notes:

• The type without heating element (= ambient) does not have water connections.

¹ For explanation of installation positions see page 7.

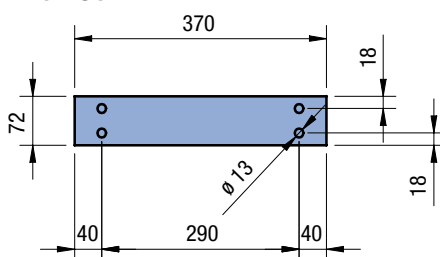
Dimensional sketches

Horizontal Installation: Suspension Brackets

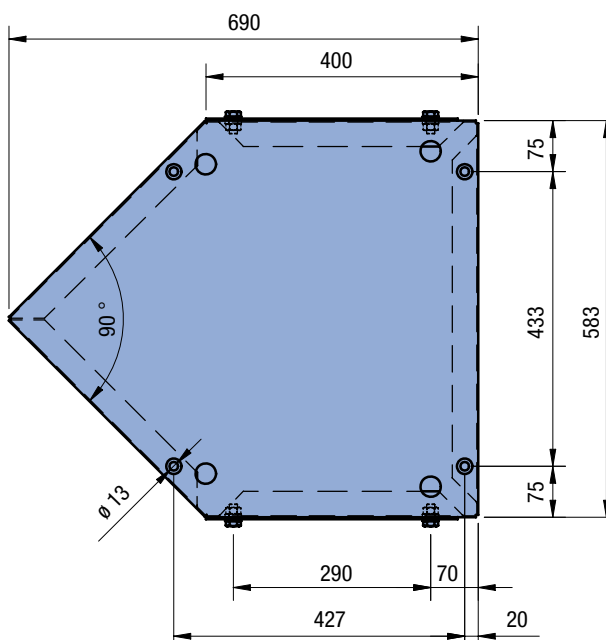
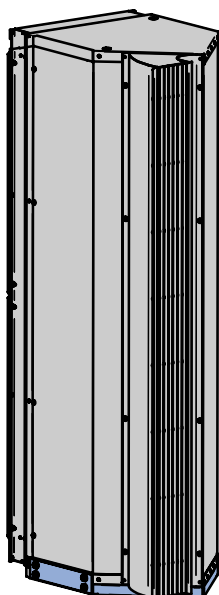


Vertical installation

Coupling plate



Base plate / plinth (accessory)



Notes:

- With horizontal installation, two suspension brackets are supplied as standard.
- With vertical installation, two coupling plates and a wall bracket (not drawn) are supplied as standard. The base plate / plinth is an accessory.
- Threaded rods are not supplied as standard.



Control and operation

The fans are powered and controlled by the control unit. By connecting a power cable to the terminal boxes in the control box and in the IndAC, the two are connected with each other.

Electrical connections

The IndAC is supplied fully wired. The connection cable included makes it easy to interlink multiple units. Apart from this cable, only the mains supply cable needs to be connected.



Specifications

Casing

The casing and the inlet grille are manufactured from zinc-plated sheet steel, extra strengthened to minimise deformations and vibrations, and have a full-polyester powder coating. The Double rectifying discharge grille is made of aluminium. The main casing is supplied in Blue (RAL 5023) and the air inlet and discharge grilles in the colour titan (Polydrex). Other colours are available at an extra charge.

Motor / fan assembly

The radial backward curved fans are mounted in the casing such that they cause no vibration. Each fan is driven by a rotor motor on ball bearings. The fan casing and impellers are manufactured from Aluminium. Motors for water and ambient units are rated to protection class IP44.

The standard motor is supplied with thermal contacts, which will break the circuit of the motor when the maximum permissible motor temperature is exceeded.

LPHW heating battery

The heating battery is manufactured with 1/2" Copper tubes and Aluminium fins. The water connections are G1" female thread. The test pressure is 9 bars and the maximum operating pressure is 8 bars at 125°C. Higher temperatures and pressures are available upon request.

Electric heating battery

The electric heating battery is manufactured with aluminium fins. The battery is controlled electronically and fitted with overload protection. When the device is switched off, the fans will continue to rotate until the fins have cooled sufficiently.

Subject to change.

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